

REMARKS/ARGUMENTS

Favorable reconsideration of this application in view of the present amendment and in light of the following discussion is respectfully requested.

Claims 1-9, 21-26 and 28-32 are pending in the present application, Claim 32 is added by way of the present amendment.

In the outstanding Office Action, Claims 1-5, 7-9, 21-26, 28 and 29 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,364,957 to Schneider in view of U.S. Patent No. 6,284,093 to Ke et al., and Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider and Ke et al. in view of U.S. Patent No. 6,464,843 to Wicker et al.

First, Applicants wish to thank Examiner Zervigon for withdrawing finality of the Office Action dated January 21, 2011 and issuance of a new non-final rejection on May 5, 2011.

Turning now to the merits, Applicants' invention is directed to a focus ring assembly for reducing process effects, such as deposition, on a back side of a wafer when the wafer is cantilevered beyond an edge of a substrate holder surface. Thus, the claimed invention applies to the specific problem context in which the back side of a periphery of the substrate is exposed, as shown throughout the drawings. In this regard, Claim 1 repeatedly defines the structure of the claimed focus ring assembly in terms of spatial relationship to a substrate cantilevered beyond an edge of a substrate holder. For example, Claim 1 recites a focus ring including "an outer radial lip surface positioned radially outward from a peripheral edge of the substrate" and "a top surface . . . axially positioned at a higher level than the substrate support surface when the focus ring is positioned on the step receiving surface of the substrate holder and positioned at substantially a same planar level as a top surface of the substrate.

In rejection Claim 1, the Office Action states:

Applicant's amended claim requirements of "the secondary focus ring, including an inner radial edge surface positioned radially outward from the peripheral edge of the substrate", "positioned radially outward from a peripheral edge of the substrate", and "to reduce process effects on the backside of a substrate", and "such that the peripheral edge of said substrate is substantially parallel to the outer radial lip surface" are **intended use claim requirements in the pending apparatus claims depending on the size (diameter) of the substrate 15 used**. Further, it has been held that claim language that simply specifies an **intended use or field of use** for the invention generally will not limit the scope of a claim (Walker, 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, **intended use must result in a structural difference between the claimed invention and the prior art** in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey, 152 USPQ 235 (CCPA '1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963); MPEP 2111.02).

With respect to Applicant's claim requirement of "said secondary focus ring (282; Figure 11) is configured to reduce deposition of material from said process on the backside surface of said substrate", **when the structure recited in the reference is substantially identical to that of claims, claimed properties or functions are presumed to be inherent** (In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977); MPEP 2112.01).¹

As seen from the highlighted text, the Office Action does not cite prior art as teaching several features (underlined) of Claim 1 but rather supports the rejection of Claim 1 with the assertion that the missing limitations are "intended use." Applicants respectfully submit that this is improper.

First, while functional language of an apparatus claim may be interpreted as an "intended use or purpose" not to be given patentable weight,² the Office Action does not provide any claim interpretation analysis to support this finding. Rather, the Action cites a litany of cases in support of its improper application of a *per se* rule that "intended use" features do not limit an apparatus claim.³ For these reasons, the Office Action has not met its initial burden of establishing a *prima facie* case for rejection Claim 1.

¹ Office Action, page 3, line 21- page 4, line 16 (emphasis added).

² See, for example, *In re Casey*, 370 F. 2d 576, 580 (CCPA 1976).

³ See MPEP § 2144.04.

Moreover, Applicants submit that the claim features identified as “intended use” in the Office Action are actually functional limitations that should be given patentable weight. In this regard, Applicants first note that the term “intended use” is typically used by courts as the conclusion to a claim interpretation analysis which finds that statements in the preamble of a claim should not be given patentable weight.⁴ Indeed, *In re Casey* and *In re Otto* each involve interpretation of the preamble. However, the above-underlined limitations addressed by the Office Action are in the body of the claim, not the preamble. Applicants submit that the Office Action failed to appreciate this distinction.

In addition, Applicants do not agree with the technical explanation offered in support of the intended use conclusion. The Office Action states,

In response, the **Examiner again urges Applicant to claim his apparatus in a manner that does not** relate the size/position of the claimed structure relative to the substrate. The above claim amendments are considered intended use recitations because the claimed apparatus **is a function of the size of the to-be-processed substrate**. The Examiner emphasizes that the entirety of Applicant’s claims are not dependent on the substrate’s position/dimension(s), however, the above-cited portions are.⁵

Thus, the Action takes the position that the claim features are “intended use” because they depend on the size (diameter) of the substrate 15 used.” Applicants respectfully disagree because these claims define the positioning of the focus ring and secondary focus ring **regardless of the size of the substrate**. Accordingly, whether the substrate has a large or small diameter, the claims define the same positioning of the focus ring and secondary focus ring that must be met to be covered by the claims.

Applicants respectfully submit that the claim limitations disregarded as intended use in the Office Action are more properly identified as relative limitations that should be given full patentable weight. As noted above, the present invention relates to a specific context in

⁴ See MPEP § 2111.02.

⁵ Office Action at Response to Arguments (emphasis added).

which the back of a peripheral part of the wafer is exposed to processing. Thus, to effectively define the invention, the claim must state structural features of the focus ring assembly in relation to the process chamber environment and the wafer itself. Indeed, this may be required under § 112, second paragraph.⁶ Further, the Federal Circuit case of *OrthoKinetics, Inc. v. Safety Travel Chairs, Inc.*⁷ confirms that relative limitation are proper and should be given patentable weight.

For the reasons stated above, Applicants respectfully submit that the claim language in question is not merely a recitation of intended use, and should be given patentable weight as it is well established that each word of every claim must be given weight.⁸ Further, these claim features disregarded by the Office Action not disclosed in the prior art. For example, Claim 1 recites that the focus ring includes a top surface which opposes the bottom surface and is axially positioned at substantially a same planar level as a top surface of the substrate. This is shown in each of Figs. 2-6 of Applicants' specification. In contrast, as shown in Fig. 11 of Schneider et al., the top surface of the collar 130 is positioned far above a top surface of the substrate 15. Similarly, in Ke et al., the top surface of the shield 30 is positioned far above a top surface of the substrate 20. Thus, Schneider et al. and Ke et al. do not, either alone or in combination, teach that the focus ring includes a top surface which is axially positioned at substantially a same planar level as a top surface of the substrate as required by Claim 1.

Further, Claim 1 recites that the outer radial lip surface of the focus ring extends substantially perpendicularly upward from the lip receiving surface to the top surface of the focus ring such that the peripheral edge of said substrate is substantially parallel to the outer

⁶ See MPEP § 2173.05(b).

⁷ 806 F.2d 1565, 1 USPQ 2d 1081 (Fed. Cir. 1986).

⁸ See *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

radial lip surface. This claim feature is also shown in each of Figs. 2-6 of Applicants' specification. However, as seen in the figures of each of Schneider et al. and Ke et al., the collar 130 and shield 30, respectively, include a flanking surface that extends from the substrate holder surface in a diagonal direction upward to the top surface positioned far above the substrate top surface. Thus, Schneider et al. and Ke et al. also do not disclose that the peripheral edge of said substrate is substantially parallel to the outer radial lip surface.

For the reasons stated above, amended Claim 1 patentably defines over the cited references. As the remaining pending claims depend from Claim 1, these dependent claims also patentably define over the cited references. Nevertheless, Applicants have also added new claim 32, which is substantially similar to Claim 1, but introduces structural language such as "dimensioned" and "positioned" to emphasize the relative terminology of the claimed invention. Thus, Claim 32 is patentable over the cited references for reasons similar to Claim 1.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application and the present application is believed to be in condition for formal allowance. A Notice of Allowance is earnestly solicited.

Respectfully submitted,

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